

SEQUENCE LISTING

<110> Pan, Shuchong
Simari, Robert D.

<120> Isoforms of Brain Natriuretic Peptide

<130> 07039-409US1

<140> US 10/561,014

<141> 2005-12-16

<150> PCT/US2004/017554

<151> 2004-06-02

<150> US 60/480,460

<151> 2003-06-20

<160> 38

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 33

<212> PRT

<213> Homo sapiens

<400> 1

Gly	Lys	His	Pro	Leu	Pro	Pro	Arg	Pro	Pro	Ser	Pro	Ile	Pro	Val	Cys
1				5				10						15	
Asp	Thr	Val	Arg	Val	Thr	Leu	Gly	Phe	Val	Val	Ser	Gly	Asn	His	Thr
			20					25					30		

Leu

<210> 2

<211> 14

<212> PRT

<213> Homo sapiens

<400> 2

Val	Val	Gln	Lys	Glu	Asn	Gln	Thr	Phe	Pro	Pro	Gly	Phe	Leu
1				5				10					

<210> 3

<211> 162

<212> PRT

<213> Homo sapiens

<400> 3

Met	Asp	Pro	Gln	Thr	Ala	Pro	Ser	Arg	Ala	Leu	Leu	Leu	Leu	Leu	Phe
1				5				10						15	
Leu	His	Leu	Ala	Phe	Leu	Gly	Gly	Arg	Ser	His	Pro	Leu	Gly	Ser	Pro
			20					25					30		

Gly Ser Ala Ser Asp Leu Glu Thr Ser Gly Leu Gln Glu Gln Arg Asn

```

      35              40              45
His Leu Gln Gly Lys Leu Ser Glu Leu Gln Val Glu Gln Thr Ser Leu
      50              55              60
Glu Pro Leu Gln Glu Ser Pro Arg Pro Thr Gly Val Trp Lys Ser Arg
65      70              75              80
Glu Val Ala Thr Glu Gly Ile Arg Gly His Arg Lys Met Val Leu Tyr
      85              90              95
Thr Leu Arg Ala Pro Arg Ser Pro Lys Met Val Gln Gly Ser Gly Cys
      100             105             110
Phe Gly Arg Lys Met Asp Arg Ile Ser Ser Ser Ser Gly Leu Gly Cys
      115             120             125
Lys Gly Lys His Pro Leu Pro Pro Arg Pro Pro Ser Pro Ile Pro Val
      130             135             140
Cys Asp Thr Val Arg Val Thr Leu Gly Phe Val Val Ser Gly Asn His
145             150             155             160
Thr Leu

```

```

<210> 4
<211> 143
<212> PRT
<213> Homo sapiens

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<400> 4
Met Asp Pro Gln Thr Ala Pro Ser Arg Ala Leu Leu Leu Leu Leu Phe
1      5      10      15
Leu His Leu Ala Phe Leu Gly Gly Arg Ser His Pro Leu Gly Ser Pro
      20      25      30
Gly Ser Ala Ser Asp Leu Glu Thr Ser Gly Leu Gln Glu Gln Arg Asn
      35      40      45
His Leu Gln Gly Lys Leu Ser Glu Leu Gln Val Glu Gln Thr Ser Leu
      50      55      60
Glu Pro Leu Gln Glu Ser Pro Arg Pro Thr Gly Val Trp Lys Ser Arg
65      70      75      80
Glu Val Ala Thr Glu Gly Ile Arg Gly His Arg Lys Met Val Leu Tyr
      85      90      95
Thr Leu Arg Ala Pro Arg Ser Pro Lys Met Val Gln Gly Ser Gly Cys
      100     105     110
Phe Gly Arg Lys Met Asp Arg Ile Ser Ser Ser Ser Gly Leu Gly Cys
      115     120     125
Lys Val Val Gln Lys Glu Asn Gln Thr Phe Pro Pro Gly Phe Leu
      130     135     140

```

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<210> 5
<211> 489
<212> DNA
<213> Homo sapiens

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<400> 5
atggatcccc agacagcacc ttcccgggcg ctctgtgtcc tgctcttctt gcatctggct      60
ttcttgggag gtcgttccca cccgttgggc agccccggtt cagcctcgga cttggaaacg      120
tccgggttac aggagcagcg caaccatttg caggggcaaac tgtcggagct gcaggtggag      180
cagacatccc tggagccctt ccaggagagc ccccgcccca caggtgtctg gaagtcccg      240
gaggtagcca ccgagggcat ccgtgggcac cgcaaaatgg tcctctacac cctgcgggca      300
ccacgaagcc ccaagatggt gcaagggctc ggctgctttg ggaggaagat ggaccggatc      360
agtcctcca gtggcctggg ctgcaaaggt aagcaccgcc tgccaccgcc gccgccttcc      420
ccattccag tgtgtgacac tgtagagtc actttggggg ttgttgtctc tgggaaccac      480

```

actctttga

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<210> 6
<211> 432
<212> DNA
<213> Homo sapiens
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<400>	6						
atgggatcccc	agacagcacc	ttcccgggg	ctcctgtctc	tgtcttctct	gcattctggct		60
ttcctggggag	gtcgttcca	cccgttgagg	agccccggtt	cagcctcgga	cttgaaacg		120
tccgggttac	aggagcagcg	caaccatttg	cagggcaaac	tgtcggagct	gcaggtggag		180
cagacatccc	tggagcccct	ccaggagagc	ccccgtcca	caggtgtctg	gaagtcccg		240
gaggtagcca	ccgagggcat	ccgtgggcac	cgaaaatgg	tcctctacac	cctgcgggca		300
ccacgaagcc	ccaagatggg	gcaaggggtc	ggctgctttg	ggaggaagat	ggaccggatc		360
agctcctcca	gtggcctggg	ctgcaaagtg	gtgcagaaag	agaaccaaac	atttcctcct		420
ggtttcctct	aa						432

<210> 7
<211> 44
<212> PRT
<213> Pongo pygmaeus

<400> 7
Gly Glu His Pro Leu Pro Pro Arg Leu Pro Ala Pro Ile Pro Val Cys
1 5 10 15
Asp Thr Val Arg Val Thr Leu Gly Phe Val Val Ser Gly Asn His Thr
20 25 30
Leu Arg Lys Cys His Leu Asp Ile Thr Ser Ser Cys
35 40

```
<210> 8
<211> 58
<212> PRT
<213> Sus scrofa
```

```

<400> 8
Gly Glu His Pro Pro Pro Phe Pro Leu His Ala Pro Val Ser Ile Thr
 1          5          10          15
Ser Gly Phe Asp Val Ser Gly Asp Gln Thr Pro Arg Lys Gly His Leu
          20          25          30
Asp Ile Thr Leu Ser Cys Cys Gln Ser Ser Arg Pro Arg Ser Ala Phe
          35          40          45
Leu Glu Lys Leu Asn Leu Asp Ser Ile His
 50          55

```

```
<210> 9
<211> 33
<212> PRT
<213> Pan troglodytes
```

```

<400> 9
Gly Glu His Pro Leu Pro Pro Arg Pro Pro Ser Pro Ile Pro Val Cys
 1          5          10          15
Asp Thr Val Arg Val Thr Leu Gly Phe Val Val Ser Gly Asn His Thr
 20          25          30
Leu

```

<210> 10
 <211> 78
 <212> PRT
 <213> *Ovis aries*

<400> 10
 Gly Glu Arg Leu Ser Ala Phe Pro Leu His Ile Thr Ile Arg Ala Thr
 1 5 10 15
 Ser Gly Ser Asp Val Ser Gly Asp Gln Ile Leu Asn Lys Glu His His
 20 25 30
 Ser Ser Leu Leu Ala Val Leu Arg Ala Lys Ala Cys Leu Ser Gly Asn
 35 40 45
 Ile Lys Phe Gly Gln His Ser Leu Ser Cys Leu Gly Ala Pro Ser Ile
 50 55 60
 His Leu Leu Pro Leu Thr Glu Arg Gly Arg Ile Phe Arg Met
 65 70 75

<210> 11
 <211> 26
 <212> PRT
 <213> *Mus musculus*

<400> 11
 Gly Glu His Leu Pro Cys His Phe Pro Ala Lys Leu His Thr His Pro
 1 5 10 15
 Ile Pro Val His Ala Thr Leu Arg Gly Pro
 20 25

<210> 12
 <211> 33
 <212> PRT
 <213> *Gorilla gorilla*

<400> 12
 Gly Glu His Pro Leu Pro Pro Arg Pro Pro Ser Pro Ile Pro Val Cys
 1 5 10 15
 Asp Thr Val Arg Val Thr Leu Gly Phe Val Val Ser Gly Asn His Thr
 20 25 30
 Leu

<210> 13
 <211> 86
 <212> PRT
 <213> *Felis catus*

<400> 13
 Gly Lys Pro Pro Pro Cys Gln Leu Asp Pro Pro Ala Pro Leu Leu Trp
 1 5 10 15
 Val Pro Pro Ser Glu Pro Leu Leu Gly Leu Leu Ser Leu Gly Thr Asn
 20 25 30
 Ser Glu Lys Lys Thr Leu Gly Leu Tyr Ser Leu Leu Leu Thr Val Leu
 35 40 45
 Lys Ala Lys Gly Arg Leu Ser Gly Asn Ile Lys Cys Gly His His Ser
 50 55 60
 Leu Leu Cys Pro Pro Arg Val Thr His Leu Leu Leu Pro Leu Trp Pro

65 70
Lys Gly Ala Glu Ser Pro
 85

75

80

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<210> 14
<211> 169
<212> PRT
<213> Canis familiaris
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[illegible]

```
<210> 15
<211> 15
<212> PRT
<213> Dendoaspis angusticeps
```

```
<400> 15
Pro Ser Leu Arg Asp Pro Arg Pro Asn Ala Pro Ser Thr Ser Ala
  1             5             10             15
```

```
<210> 16
<211> 32
<212> PRT
<213> Homo sapiens
```

```

<400> 16
Ser Pro Lys Met Val Gln Gly Ser Gly Cys Phe Gly Arg Lys Met Asp
 1             5             10             15
Arg Ile Ser Ser Ser Gly Leu Gly Cys Lys Val Leu Arg Arg His
      20             25             30

```

```
<210> 17
<211> 41
<212> PRT
<213> Dendroaspis angusticeps
```

<400> 17

```

Glu Val Lys Tyr Asp Pro Cys Phe Gly His Lys Ile Asp Arg Ile Asn
 1           5           10           15
His Val Ser Asn Leu Gly Cys Pro Ser Leu Arg Asp Pro Arg Pro Asn
           20           25           30
Ala Pro Ser Thr Ser Ala Asp Asn Pro
      35           40

```

<210> 18

<211> 28

<212> PRT

<213> Homo sapiens

<400> 18

```

Ser Leu Arg Arg Ser Ser Cys Phe Gly Gly Arg Met Asp Arg Ile Gly
 1           5           10           15
Ala Gln Ser Gly Leu Gly Cys Asn Ser Phe Arg Tyr
           20           25

```

<210> 19

<211> 22

<212> PRT

<213> Homo sapiens

<400> 19

```

Gly Leu Ser Lys Gly Cys Phe Gly Leu Lys Leu Asp Arg Ile Gly Ser
 1           5           10           15
Met Ser Gly Leu Gly Cys
           20

```

<210> 20

<211> 34

<212> PRT

<213> Artificial Sequence

<220>

<223> exemplary motif

<221> VARIANT

<222> 2

<223> Xaa = Glu or Lys

<221> VARIANT

<222> 3

<223> Xaa = Pro, His, or Arg

<221> VARIANT

<222> 4

<223> Xaa = Pro or Leu

<221> VARIANT

<222> 5

<223> Xaa = Pro, Leu, or Ser

<221> VARIANT

<222> 6

<223> Xaa = Cys or Pro

<221> VARIANT

<222> 7

<223> Xaa = Pro, His, Gln, or Arg

<221> VARIANT

<222> 8

<223> Xaa = Arg, Phe, or Leu

<221> VARIANT

<222> 9

<223> Xaa = Asp, Gly, or absent

<221> VARIANT

<222> 10

<223> Xaa = Ser, Pro, or Leu

<221> VARIANT

<222> 11

<223> Xaa = Pro or absent

<221> VARIANT

<222> 12

<223> Xaa = Ser, Ala, or absent

<221> VARIANT

<222> 13

<223> Xaa = Pro or Ala

<221> VARIANT

<222> 14

<223> Xaa = Ala, Phe, Ile, or Leu

<221> VARIANT

<222> 15

<223> Xaa = Pro, Lys, or Leu

<221> VARIANT

<222> 16

<223> Xaa = Val, Leu, or Trp

<221> VARIANT

<222> 17

<223> Xaa = Cys, His, or Val

<221> VARIANT

<222> 18

<223> Xaa = Asp, Ala, Ile, Thr, Pro, or Arg

<221> VARIANT

<222> 19

<223> Xaa = Thr, Pro, or His

<221> VARIANT

<222> 20

<223> Xaa = Val, Ile, Pro, Val, Ser, or Leu

<221> VARIANT

<222> 21

<223> Xaa = Arg, Ser, Ile, or Glu

<221> VARIANT

<222> 22

<223> Xaa = Val, Ile, Ala, or Pro

<221> VARIANT

<222> 23

<223> Xaa = Thr, Val, or Leu

<221> VARIANT

<222> 24

<223> Xaa = Leu, Ser, or His

<221> VARIANT

<222> 25

<223> Xaa = Gly or Ala

<221> VARIANT

<222> 26

<223> Xaa = Phe, Ser, Thr, or Leu

<221> VARIANT

<222> 27

<223> Xaa = Val, Asp, or Leu

<221> VARIANT

<222> 28

<223> Xaa = Val, Leu, or Ser

<221> VARIANT

<222> 29

<223> Xaa = Ser, Arg, or Leu

<221> VARIANT

<222> 31

<223> Xaa = Asn, Asp, Pro, or Thr

<221> VARIANT

<222> 32

<223> Xaa = His, Gln, Asn, or Thr

<221> VARIANT

<222> 33

<223> Xaa = Thr, Ile, or Ser

<221> VARIANT

<222> 34

<223> Xaa = Pro, Leu, or Glu

<400> 20

Gly Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa

1 5 10 15
 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Gly Xaa Xaa
 20 25 30
 Xaa Xaa

<210> 21
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 21
 agacatggat cccagacag 20

<210> 22
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 22
 caagaggaag cgatgtccag 20

<210> 23
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 23
 ttctctccag cgacatggag 20

<210> 24
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 24
 ggactctttc tgctccaagg 20

<210> 25
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 25
 agacatggat ccccagacag 20

<210> 26
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 26
 tttctgcacc actttgcagc 20

<210> 27
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 27
 gagtcaacgg atttggtcgt 20

<210> 28
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 28
 ttgattttgg agggatctcg 20

<210> 29
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 29
 cttcttgcat ctggctttcc 20

<210> 30
 <211> 19
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 30

agggatgtct gctccacct 19

<210> 31
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 31
 ggacatcgct tcctctttgt t 21

<210> 32
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 32
 gaaggtattg tgggcatggt 20

<210> 33
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 33
 tcccacaggt ggtctggaag t 21

<210> 34
 <211> 19
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 34
 ttctgcacca ctttgcagc 19

<210> 35
 <211> 41
 <212> PRT
 <213> Homo sapiens

<400> 35
 Ser Pro Lys Met Val Gln Gly Ser Gly Cys Phe Gly Arg Lys Met Asp
 1 5 10 15
 Arg Ile Ser Ser Ser Ser Gly Leu Gly Cys Lys Val Val Gln Lys Glu
 20 25 30
 Asn Gln Thr Phe Pro Pro Gly Phe Leu

35

40

<210> 36
 <211> 60
 <212> PRT
 <213> Homo sapiens

<400> 36
 Ser Pro Lys Met Val Gln Gly Ser Gly Cys Phe Gly Arg Lys Met Asp
 1 5 10 15
 Arg Ile Ser Ser Ser Gly Leu Gly Cys Lys Gly Lys His Pro Leu
 20 25 30
 Pro Pro Arg Pro Pro Ser Pro Ile Pro Val Cys Asp Thr Val Arg Val
 35 40 45
 Thr Leu Gly Phe Val Val Ser Gly Asn His Thr Leu
 50 55 60

<210> 37
 <211> 32
 <212> PRT
 <213> Canis familiaris

<400> 37
 Gly Lys Pro Pro Pro Cys Arg Leu Gly Ser Pro Ser Pro Ala Pro Trp
 1 5 10 15
 Val Arg Pro Leu Glu Pro Leu Leu Gly Leu Leu Ser Arg Gly Ile Thr
 20 25 30

<210> 38
 <211> 510
 <212> DNA
 <213> Canis familiaris

<400> 38
 atggagccct gcgcagcgct gccccggggc ctctgtctcc tctgtttctt gcacctgtcg 60
 ccactcggag gccgccccca cccgctgggc ggccgcagcc ccacctcgga agcctcggaa 120
 gcctcgggaag cctcgggggt gtgggcccgtg caggagctgc tgggcccgtct gaaggacgca 180
 gtttcagagc tgcaggcaga gcagttggcc ctggaacccc tgcaccggag ccacagcccc 240
 gcagaagccc cggaggccgg ggaggaacgc cccgtggggg tccttgacc ccatgacagt 300
 gtcctccagg ccctgagaag actacgcagc cccaagatga tgcacaagtc aggggtgcttt 360
 ggccggaggc tggaccggat cggctccctc agtggcctgg gctgcaatgg taagccgcct 420
 ccctgccacc ttggtcccc ctccccagcc ccctgggttc gacccttgga accccttctg 480
 ggtttggtgt ctcgggggat cacactctga 510